Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

ture, and that they put out buds and a new growth in the spring. To discover if this be the case he had placed some fragments in water, and while awaiting results he had been surprised at the appearance within a few days amongst the fragments of *Urnatella*, of numbers of the recently described chætobranch-worm, *Manayunkia speciosa*, of Leidy, as well as several living cells of a species of *Paludicella*, probably *P. elongata*, of the same author. The persistence and tenacity of life in these apparently delicate creatures, overcoming not only the severity of a hard winter, but an exposure of several days in the open air, were further commented upon.

FEBRUARY 19.

The President, Dr. LEIDY, in the chair.

Thirty-seven members present.

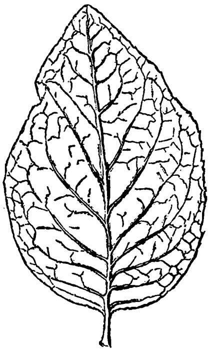
The deaths of Dr. Geo. Engelmann and Prof. Arnold Guyot, correspondents, were announced.

Indian use of Apocynum cannabinum as a textile fibre.—At the meeting of the Botanical Section held on the 18th inst., Mr. THOMAS MEEHAN stated that while it was well known that the fibre of *Apocynum cannabinum* was used by the Eastern Indians in the manufacture of baskets, mats and other articles, he had heard it doubted whether the same plant was used by the Indians in the West. He had interested a lady in Washoe Valley, Western Nevada, to get direct from the Indians of that section stems of the plant used by them. She had done so, and he now exhibited them. They proved to be the same plant, *Apocynum cannabinum.*

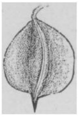
The Longevity of Trees.—Professor Sheafer, of Pottsville, Pa., reading an abstract of MR. MEEHAN's remarks, in Proceedings of the Academy, had cut and sent for the inspection of members some specimens from Schuylkill county, remarkable for slow growth, of a black oak, *Quercus tinctoria*, in which the annual growths showed in a little over two inches from the centre an average of 36 circles to an inch; one of hemlock spruce, *Abies Canadensis*, 51 to an inch; and one of the common chestnut, *Castanea vesca Americana*, 24 to an inch. Though only four inches in diameter, the oak stem was seventy-six years old; the hemlock one hundred and four years and in diameter four inches; and the chestnut four and a half inches in diameter in sixty years.

With a struggle for life either from poverty of the soil, elevation, or close growth of trees, which the small annual growths open were found to have perfect seeds. If the plant with these leaves, flowers and fruit had been found in a state of nature, the botanist would surely have made a new species of it, if indeed he would not have had some doubts of a new genus.

Mr. Meehan then referred to his contributions in the past, tending to show that there was an innate tendency in plants to vary; that this natural tendency was at the foundation of all theories of evolution, and that environment had not near the influence on variation some good botanists claimed for it. If we were to take environment as a serious element of change, there would be no certainty in the direction of change; but a glance at the palæontological and other evidences showed that change had been always in the direction of certain uniform lines, and evidently in accord with a predetermined plan, which the accidents of environment had not been able to override. At any rate, such illustrations as this of the *Halesia* showed a remarkable change with which certainly environment had nothing to do. The seeds were all from one tree, with not even another individual of its own species near it. The seedlings all came up in one bed together, and yet out of many hundred seedlings, all with the same exact conditions of environment, there was not one with even an approach to the singular peculiarities of this.



2. *H. tetraptera*, var.



2*a*. *H. tetraptera*, var.

In regard to the sterility or fertility of plants, what we would call environment had evidently much to do, and this also he had endeavored to point out in former botanical contributions. In his paper before the American Association for the Advancement of Science, at Detroit, in 1875, he had shown that Mr. Darwin's experiments in keeping bees from clover, and which in England led to sterility, did not so prove in Philadelphia, the protected plants there being fertile; and he there made the suggestion that the different conditions of environment led to the different results. He had also since then shown that *Linum perenne* in Philadelphia was self-fertile, though in England Mr. Darwin had found that one might as well apply so much inorganic dust to a pistil as the flower's own pollen. Here we have another illustration. The exuberance of vegetative growth being checked by age, or some other circumstance of climate or season, acting against the vegetative and in favor of the reproductive principles—principles we know by many illustrations were antagonistic—gave us this season an environment for the first time favorable to fertility.

The figures are two-thirds the actual size.

The following were ordered to be published:—